DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING SERVICES
Office of Structural Materials
Quality Assurance and Source Inspection

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Contract #: 04-0120F4
Cty: SF/ALA Rte: 80 PM: 13.2/13.9
File #: 1.28

WELDING INSPECTION REPORT

Resident Engineer: Siegenthaler, Peter
Address: 333 Burma Road
City: Oakland, CA 94607

Report No: WIR-017077
Date Inspected: 29-Sep-2010

Project Name: SAS Superstructure
Prime Contractor: American Bridge/Fluor Enterprises, a JV
Contractor: American Bridge/Fluor Enterprises, a JV

OSM Arrival Time: 630
OSM Departure Time: 1500
Location: Job Site

CWI Name: See below

Inspected CWI report:	☑ Yes	☐ No	☐ N/A	**CWI Present:**	☑ Yes	☐ No	
Electrode to specification:	☑ Yes	☐ No	☐ N/A	**Rod Oven in Use:**	☑ Yes	☐ No	☐ N/A
Qualified Welders:	☑ Yes	☐ No	☐ N/A	**Weld Procedures Followed:**	☑ Yes	☐ No	☐ N/A
Approved Drawings:	☑ Yes	☐ No	☐ N/A	**Verified Joint Fit-up:**	☑ Yes	☐ No	☐ N/A
				Approved WPS:	☑ Yes	☐ No	☐ N/A
				Delayed / Cancelled:	☐ Yes	☑ No	☐ N/A

Bridge No: 34-0006
Component: SAS OBG

Summary of Items Observed:

The Quality Assurance (QA) Inspector, Rick Bettencourt was on site at the job site between the times noted above. The QA Inspector was on site to randomly observe the in process welding and inspection of the weld joints identified 7E/8E and hole restoration, and the following observations were made:

1E-PP-11-E4-3

The QA Inspector randomly observed the ABF welder identified as Wai Kitlai performing grinding tasks on the above identified back gouged weld joint. The QA Inspector randomly observed the Smith Emery (SE) Quality Control (QC) Inspector John Pagliero perform visual testing several times in an attempt to clear or accept the back gouged weld joint. The QA Inspector randomly observed the back gouged weld joint an noted visible slag inclusions were present and additional grinding would be required. After the grinding was completed the QA Inspector randomly observed the ABF welder begin performing the SMAW back weld for the above identified weld joint. The QA Inspector noted the base metal and the weld joint were preheated to approximately 150°F and back welding was commenced. The QA Inspector randomly observed the ABF welder to be utilizing 1/8” E7208 low hydrogen electrodes with 130 Amps. The QA Inspector noted the SMAW back weld was continued from the previous day shift completed on the QA Inspectors shift on this date. The QA Inspector randomly observed the ABF welder begin performing grinding tasks in an attempt to remove and grind the weld reinforcement flush with the base material.

1E-PP-8.5-E3-4

The QA Inspector randomly observed Darcel Jackson performing grinding tasks of ultrasonic testing rejects in the above identified lifting lug deck hole restoration. The QA Inspector randomly observed the ABF welder had

previously excavated and repaired five total rejectable weld defects. The QA Inspector randomly observed the ABF welder had begun excavating and re-welding 4 of the five original weld defects. The QA Inspector noted the Smith Emery (SE) Quality Control (QC) Inspector Steve McConnell had previously performed ultrasonic testing (UT) and rejected the weld for the second time. The QA Inspector noted the repairs being excavated and repaired by Mr. Jackson were classified as R2 repairs. The QA Inspector randomly observed the SE QC Inspector Steve McConnell was on site to monitor and record the in process welding parameters. The QA Inspector noted the ABF welder was utilizing the shielded metal arc welding process with 5/32" E7018 low hydrogen electrodes. The QA Inspector randomly observed the ABF welder was utilizing 205 Amps while performing the SMAW repair. The QA Inspector performed a random visual inspection of the previously excavated areas and noted they had been ground and blended to a boat shaped weldable profile. The QA Inspector randomly observed and noted the ABF welder was preheating the material to approximately 150°F prior to making the SMAW repairs. The QA Inspector noted the SMAW repairs appeared to be in general compliance with ABF-WPS-1001 repair. The QA Inspector noted the repair welding was not completed on the QA Inspectors shift.

1E-PP-9.5-E4-4
The QA Inspector randomly observed an ABF welder Jin Pei Wang performing grinding tasks ultrasonic testing rejects in the above identified lifting lug deck hole restoration. The QA Inspector observed four total UT rejects were located and indicated directly on the weld metal. The QA Inspector noted no welding was performed only excavations of previously tested weld. The QA Inspector randomly observed the ABF welder was performing the excavation from the top side of the deck plate or from face A.

7E/8E
Upon the arrival of the QA Inspector at the above identified location it was observed the two OBG lifts identified as 7E and 8E had been pushed into place and the minimum seismic bolting requirements had been previously completed. The QA Inspector noted fit up gear had been previously installed in the weld segments designated A1 and A5. The QA Inspector noted upon arrival no steel backing bars had yet been installed as of 0700. Later in the QA Inspectors shift it was observed, the ABF welder Rick Clayborn had begun installing the steel backing bar and fit gear to the "D" plate. The QA Inspector performed random visual testing of the root opening for the "D" transverse weld joint prior to Mr. Clayborn installing the steel backing bar. The QA Inspector noted the root opening and bevel angle appeared to be in general compliance with the contract requirements. Near the end of the QA Inspectors shift in the field, it was observed the ABF welder Rick Clayborn had begun to install the steel backing bar utilizing wedges under the top deck plate. The QA Inspector noted the fit was in process at the end of the QA inspectors shift and no welding had been completed. The QC Inspector Bonifacio Daquinag informed the QA Inspector the team weld joint inspection of the fit up of the "A" deck would be performed in the morning of 9-30-10.

Summary of Conversations:
The ABF Project Engineer John Callaghan informed the QA Inspector, ABF has ordered new steel and is currently having XKT Engineering fabricate new deck inserts for the lifting lug hole restoration. Mr. Callaghan informed the QA Inspector, ABF is struggling to perform the deck hole restoration due to a significant amount of UT rejects and second time repairs. Mr. Callaghan went on to inform the QA Inspector the new deck inserts fabricated by XKT will fit in the holes tighter and have a smaller root opening, thus allowing them to be welded without a significant root gap and hopefully less UT rejections.

WELDING INSPECTION REPORT

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Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Mohammad Fatemi (916)-813-3677, who represents the Office of Structural Materials for your project.

Inspected By:	Bettencourt,Rick	Quality Assurance Inspector
Reviewed By:	Levell,Bill	QA Reviewer